

RE: A Question on the UEC Permit



09/07/2012 01:08 PM

Philip Dellinger to: David Murry

Cc: Jose Torres, Lorrie Council, Ray Leissner, Stacey Dwyer

Philip Dellinger/R6/USEPA/US From:

David Murry <avid.murry@tceq.texas.gov> To:

Cc: Jose Torres/R6/USEPA/US@EPA, Lorrie Council lorrie.council@tceq.texas.gov, Ray

Leissner/R6/USEPA/US@EPA, Stacey Dwyer/R6/USEPA/US@EPA

Thanks David. I'm not familiar with the all the details of this process, but I thought they injected just carbonated water and/or oxygen. What is the source of chlorides, a chem reaction? Thanks.

David Murry Jose, Good morning; hope you are doing well. S... 09/07/2012 11:57:54 AM

From: David Murry david.murry@tceq.texas.gov

Jose Torres/R6/USEPA/US@EPA To:

Stacey Dwyer/R6/USEPA/US@EPA, Philip Dellinger/R6/USEPA/US@EPA, Ray Cc:

Leissner/R6/USEPA/US@EPA, Lorrie Council lorrie.council@tceq.texas.gov, Charles Maguire

<charles.maguire@tceg.texas.gov>

Date: 09/07/2012 11:57 AM

RE: A Question on the UEC Permit Subject:

Jose,

Good morning; hope you are doing well. Sorry for the delay, I was having some email problems this morning. They seem to be fixed now.

Class III permittees are required to establish upper control limits for the designated excursion parameters, which in this case are chlorides and conductivity. These parameters are used to determine if there is an excursion. A permittee is not required to establish UCLs for uranium and radium-226 (unless they are designated excursion parameters). Once an excursion has been verified, the permittee is required to analyze samples for uranium and radium-226 as a precaution.

Chlorides and conductivity are two parameters often used for excursion detection because they are conservative. That is to say, their concentration or activity in the groundwater is not affected by such processes as adsorption on clays or by chemical reduction. Therefore, chloride ions, for example, will move as fast as the groundwater velocity. If there is an excursion, these parameters are the first that will be seen. Uranium and radium, however, are affected by the presence of clay and chemical conditions of the groundwater. Because of this, they travel slower that the groundwater velocity.

If not adequately addressed, an excursion of mining fluids could migrate offsite. Monitoring for radium-226 and uranium during the remedial action for an excursion provides an indication of the effectiveness of the remedial action. Non-detection of these parameters or an absence of an upward trend in them during remedial action for an excursion is an indication that the remedial action is containing the excursion.

I see what you mean by not having an established UCL for uranium and radium-226, as they may be present in the groundwater naturally. However, again, monitoring for them is an added safeguard during remedial action to address an excursion.

David

From: Jose Torres [mailto:Torres.Jose@epamail.epa.gov]

Sent: Thursday, September 06, 2012 10:40 AM

To: David Murry

Cc: Stacey Dwyer; Philip Dellinger; Ray Leissner

Subject: A Question on the UEC Permit

Good morning Mr. Dave:

While attempting to learn about the allowed Upper Control Limits (UCLs) in the captioned, I came across provisions V.E.1 and V.E.2 as shown below. I could see that the UCLs for Chlorides and Conductivity are defined as the maximum determined values plus 25% in permit provision V.E.1.

However, provision V.E.2 in the subject permit does not appear to explicitly provide values for the UCLs for uranium and radium226. I went to provision V.G.2, Excursions (see below), hoping to find UCL values for these constituents, but did not see any.

I would appreciate it if you could please clarify this point of the UCLs for uranium and radium226 in this permit, since I seem to have somehow missed them. Your feedback will be greatly appreciated.

I look forward to hearing from you. Regards,

José Eduardo Torres - 6WQ-SG Ground Water/UIC Section EPA, Region 6 (214) 665-8092

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E. Monitoring Parameter Upper Limits

- Chloride, conductivity, and total dissolved solids shall be used a
 in monitoring for excursions of mining solutions from each proc
 limit concentrations that indicate the presence of an excursion sh
 the production zone by adding 25% to the maximum values
 sampling of the production zone wells for each production area
- In the event of an excursion, as defined in provision V.G.2. of the TAC §331.2, monitoring for uranium and radium²²⁶ shall be requanalysis for uranium and radium²²⁶ shall be in accordance with this permit.

Excursions

- a. An excursion (defined by 30 TAC § 331.2 as the movement of a solutions into a designated monitor well) is indicated by the sa concentration of any control parameter provided in Section V.E.1. a permit being equal to or above the upper limit established for the appl PAA. Within two days of detecting an apparent excursion, the per shall repeat the sampling and complete a verifying analysis of the sa taken from each apparently affected well in accordance with 30 §331.105(3).
- b. If the verifying analysis confirms the existence of an excursion, the pershall notify the Field Operations Division, Region 14 Corpus Office, by the next working day by telephone and by letter postme within 48 hours of identification of the excursion. The notification identify the affected monitor well and the control parameter concentration.
- c. While mining solutions are present in a designated monitor well permittee shall conduct sampling and analysis of each affected we frequency of at least two times per week in accordance with 30 §331.105(4).
- d. Reporting shall be monthly according to 30 TAC §331.85(f) (by the states and after each sample is taken). Parameters analyzed and reported of periods of excursions shall consist of the control parameters specification V.E.1 of this permit plus uranium and radium²²⁶ as specific Provision V.E.2. of this permit.